

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 October 2005 (06.10.2005)

PCT

(10) International Publication Number
WO 2005/092876 A1

(51) International Patent Classification⁷: **C07D 307/93**,
493/08, 313/08, 311/30

(21) International Application Number:
PCT/US2005/010005

(22) International Filing Date: 23 March 2005 (23.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/555,448 23 March 2004 (23.03.2004) US
60/612,009 22 September 2004 (22.09.2004) US

(71) Applicant (for all designated States except US):
TRUSTEES OF BOSTON UNIVERSITY [US/US];
One Sherborn Street, Boston, MA 02215 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PORCO, John, A.**
[US/US]; 270 Russell Road, Chestnut Hill, MA 02467
(US). **GERARD, Baudouin** [FR/US]; 31 Gardner Street,
Apt. 10, Allston, MA 02134 (US). **JONES, Guilford**
[US/US]; 165 Bishops Forest Drive, Waltham, MA 02452
(US).

(74) Agent: **JARRELL, Brenda, Herschbach**; Choate, Hall
& Stewart, LLP, 53 State Street, Boston, MA 02109 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: **SYNTHESIS OF ROCAGLAMIDE NATURAL PRODUCTS VIA PHOTOCHEMICAL GENERATION OF OXIDOPYRYLIUM SPECIES**

(57) Abstract: The present invention provides new strategies for the synthesis of compounds of the rocaglamide family and related natural products. In particular, the new biomimetic synthetic approach involves photochemical generation of an oxidopyrylium species from a 3-hydroxychromone derivative followed by 1,3-dipolar cycloaddition of the oxidopyrylium species to a dipolarophile. This approach can be used for the formation of adducts containing an aglalin core structure. Methods for the conversion of aglalin core structures to aglalin, rocaglamide and forbaglin ring systems are also provided. The present invention also relates to the use of rocaglamide/aglalin/forbaglin derivatives for the manufacture of medicaments for use in the treatment of cancer or cancerous conditions, disorders associated with cellular hyperproliferation, or NF- κ B-dependent conditions.

WO 2005/092876 A1